antibiotic residues in foods of animal origin. This is the first of two reports submitted by the Expert Committee and presents a toxicological evaluation of some 20 compounds belonging to eight classes of antibiotics. The second report, awaiting publication, is concerned mainly with the specifications of antibiotics and the methodology for the determination of antibiotic residues in foods.

The introductory section includes a brief review of the potential toxic hazards due to the chemical and microbiological effects of antibiotic residues in food. The committee viewed with grave concern the antibiotic resistance induced in micro-organisms, in particular in Gram-negative members of the Enterobacteriaceae, for example, the danger inherent in the development of resistance to chloramphenicol by species of *Salmonella* which cause typhoid and paratyphoid fevers.

In assessing the use of antibiotics as food additives and growth promoters, the Committee took into account these and other factors such as the presence of the breakdown products of antibiotics in food.

The report considers the use of a number of antibiotics as growth promotants to be acceptable and specifies the limits of residues present in animal food for human consumption. These are aminoglycosides (streptomycin, dihydrostreptomycin, kanamycin and neomycin), macrolides (erythromycin, leucomycin, oleandomycin, spiramycin and tylosin), penicillins (benzylpenicillin), polypeptides (bacitracin and polymyxin B) and tetracyclines (tetracycline, chlortetracycline and oxytetracycline). The Committee advises against the proposed use as direct food additives of tylosin, pimarcin and tetracyclines.

The report favours the use of the antifungal antibiotics, nystatin and pimarcin, as food additives, and, in contrast, considers that chloramphenicol and novobiocin should be restricted to human and veterinary medicine.

The original list of substances submitted to the Committee for consideration included 32 antiprotozoan and antibacterial compounds, but these could not be evaluated due to paucity of toxicological data. The Committee called for more research to be undertaken on these and other antibiotics and hoped for a freer exchange of information between national and international regulatory authorities.

The recent report of the Joint Committee on the use of Antibiotics in Animal Husbandry and Veterinary Medicine, under the Chairmanship of Professor Swann, not only endorses the findings of the F.A.O./W.H.O. Expert Committee but goes further in recommending the ban on the use of penicillin and the tetracyclines as feed additives.

S. D. GANGOLLI

Health Conditions in the Ceramic Industry. Edited by C. N. Davies. (Pp. 254; 120s.) Oxford: Pergamon Press. 1969.

This well-produced volume presents the papers and summaries of discussions in an international symposium organized jointly by the North Staffordshire Medical Institute and the British Occupational Hygiene Society and held from 27 to 29 March, 1968. There were 30

contributors, of whom 10 were from Europe and one from India.

The book opens with the first Wade Lecture in honour of Sir George Wade, President of the Institute, given by J. C. Gilson on 'The changing pattern of pneumoconiosis'. His theme was the need for greater precision in establishing and specifying dust standards, and how this can be achieved not only through environmental measurements but also by searching for early evidence of abnormality in the worker before disease becomes manifest.

The remainder of the volume comprises 29 papers centred on silicosis, particularly that in the ceramic industry. They are divided into six groups. The first discusses pneumoconiosis in the ceramic industries of North Staffordshire, India, Bavaria, Sweden and Italy and follows an excellent short historical introduction by A. Meiklejohn. The next two groups consist of a paper on the therapy of silicotuberculosis, one on the treatment of the general complications of silicosis, one giving a pathological description of the disease, and one on results of a large series of latex tests in 6 000 porcelain workers which suggests a higher percentage of positive titres in those with silicosis.

There follows a group of 10 papers on environmental conditions. These together form a useful and coherent account not only of the assessment of dust levels and hygiene standards but also of practical aspects of protective clothing, ventilation and dust control in the industry.

Three papers on respiratory disability discuss lung function in Staffordshire workers, the lung compliance in silicosis and finally evidence from Yugoslavia that an abnormally high bronchitis rate exists among ceramic workers in the presence of little or no radiological abnormality. The last group of papers discusses skin disease, lead poisoning, accidents and factory legislation.

This volume covers a wide field, and anyone concerned with industrial pulmonary disease is likely to find interest in it.

C. B. MCKERROW

1968 Evaluation of Some Pesticide Residues in Food. (Pp. 293; no price stated.) Geneva: Food and Agriculture Organisation of the United Nations, W.H.O. 1969.

This is the most recent publication coming from the regular meetings of a joint F.A.O./W.H.O. group of experts on pesticide residues. In its 293 pages of compact information, monographs are given on 32 individual pesticides. Some are merely supplementary monographs giving new data or evaluations on compounds previously reviewed. Most are complete summaries of available information on chemicals at the time of compilation.

The F.A.O./W.H.O. experts then make their own evaluation and recommendations on residue tolerances for the individual chemical on 'raw agricultural products moving in commerce', and list the further information required or otherwise desirable for the next improved review of each compound. Each monograph ends with a useful list of references to the main published literature.

This latest expert survey on the 'pesticide residue problem' is as welcome as previous versions. As an

addition to the literature, its monographs are useful, concise and readable, and seem to reflect with reasonable accuracy the state of knowledge for that compound – although those producing such evaluations must expect that their views are at least open to challenge. Those who are seeking some authoritative source of total knowledge and finality on safe residues of pesticides will not find it here, or indeed anywhere else as yet. We seem to be in the position that there is plenty of scientific data (at a conservative estimate these 32 monographs represent at least £10 million research costs to provide the facts), but no agreement on exactly how they should be utilized in evaluating hazards or recommending tolerances for international trade in foodstuffs, or even nationally. Almost every monograph ends with a significant list of more information believed by the experts to be required or desirable for an improved evaluation of hazard and tolerances; one wonders how a cost/benefit assessment would report on such recommendations for further relatively non-productive work.

It is also worrying to see that almost all the pesticides discussed in this book have been used commercially for 10 or more years, many of them being now in diminishing use due to more recent introductions. There would be logic in spending part of this expert effort in considering introductory residue tolerances for promising chemicals at an earlier stage in their commercial history, so that eventually the experts manage to catch up with the chemical industry.

Taking a deliberately broad view, this latest F.A.O./W.H.O. publication demonstrates very well that a great deal of attention has been and is being given to the pesticide residue problem by international agencies, by Governments and by chemical firms (who provide most of the data). It also makes clear what a complex subject the official experts have to deal with, not merely from the scientific aspects, but also because their recommendations have to be both acceptable to and practicable for individual Governments, their administrators, agriculturalists and chemical industries. It is possible that our present attitudes towards pesticide residues are restrictively apprehensive or cautious; but, despite everything, such F.A.O./W.H.O. recommendations can help make sure that residues in imported food are kept within safe, very safe, levels, and that progress with pesticides is not retarded by lack of guidance.

E. F. EDSON

Occupational and Medicative Hazards in Ophthalmology. Edited by J. Francois. (Pp. xvi + 722; 211 figs; 64 tables; 300s.) Basel and New York: Karger. 1969.

Trauma to the eye and surrounding structures presents a problem which has taxed the skill of ophthalmologists for generations past and is likely to increase with the increasing mechanization of our society. Also, commonly used drugs which, until a decade ago, were thought to

have no ocular side-effects have since been recognized as causing marked visual impairment. With these considerations in mind, this volume will be welcomed by general physicians and surgeons as well as ophthalmologists.

This book contains the complete proceedings of the Third Congress of the European Society of Ophthalmology, which was held in Amsterdam in 1968. Experts from all parts of the world gathered to consider physical, chemical and radiational trauma to the eye, and ocular complications of certain drugs and occupational intoxications. The prevention, immediate management and treatment of short-term and long-term complications have been discussed.

The volume is divided into two sections with the main lectures constituting the first half followed by so-called 'Free Papers' in which some very interesting aspects of trauma and toxicology have been expounded. The papers were delivered in English, French or German. There are resumés in all three languages at the end of the main papers, but unfortunately this three-language summary is not given at the end of the 'Free Papers' which constitutes the bulk of the book.

The views of many of the authors are well known; however, the repetition of them only serves to emphasize their importance. Much of the experimental work is new. The effect of visual acuity, colour vision, visual fatigue and drugs on occupational and road-traffic accidents has been discussed at length, even including a paper on the effects of smog. Perhaps not everyone would agree with Boberg-Ans that a local anaesthetic is sufficient when repairing injured eyes in patients over 12 years of age. The majority of ophthalmologists in Great Britain at least would prefer to give a general anaesthetic in these situations. Obviously one must expect certain injuries to be a constant hazard in particular occupations, but it is surprising that a supposedly innocent occupation such as agriculture can present so many ocular injuries. At a time when there is so much world-wide student, industrial and political unrest, Rose of California has produced an important paper on the dangers of Mace, a pocket spray container of tear gas. While applauding the hopes of Crews that the study of adverse drug reactions should produce safer drugs, Meier-Ruge, quoting Kushinsky, points out that drugs which show no side-effects should be viewed with caution unless they produce no main effects. Tengroth gives an apt warning about our ignorance of the biological effects of laser radiation and goes on to say that its use cannot be defended in surgery. Perhaps this final comment that 'until further knowledge is gained, the laser should be looked upon as a potentially hazardous instrument', should be a lesson for us all when we prescribe any drug, new and old, or use any recently described methods.

Professor Francois is to be congratulated on editing an excellent book which can be recommended without reservation.

M. K. WANG